



Office of Research and Development
National Health and Environmental Effects Research Laboratory
Mid-Continent Ecology Division (MED)

DEBRA LYNN TAYLOR

U.S. Environmental Protection Agency
National Health and Environmental Effects Research Laboratory
Mid-Continent Ecology Division - Duluth
6201 Congdon Boulevard
Duluth, Minnesota 55804
218-529-5180
taylor.debra@epa.gov

(revised 01/04/02)

EDUCATION

<u>Degree</u>	<u>Year</u>	<u>Major</u>	<u>Institution</u>
M.S.	1986	Water Resources and Environmental Law	Michigan State University
B.S.	1980	Aquatic Biology	University of Wisconsin-Superior

EXPERIENCE

Biologist

<u>Dates</u>	<u>Employer</u>
05/95 - Present	U.S. Environmental Protection Agency 6201 Congdon Blvd. Duluth, MN

Brief Description of Position: Coordinate and execute field and laboratory research programs, specializing in clean sediment impacts and wetland botany. Projects include research on the effects of agricultural practices on prairie pothole wetlands; effects of forest fragmentation on sediment size-class distributions and sediment export in low-order western Lake Superior watersheds; and effects of watershed land-use and habitat alteration on Lake Michigan riverine wetlands' water quality, hydrology, sediments, and biota, with emphasis on the development of indicators of biotic integrity. Lead, organize, and schedule field sampling teams, train and supervise seasonal employees, serve as primary wetland plant taxonomist, conduct data analyses, produce presentations, papers, and reports.

Research Biologist

Dates

11/93 - 03/94

Employer

Scientific Applications International Corporation

Brief Description of Position: Coordinated and executed field and laboratory research program examining the effects of sedimentation and agricultural chemicals on prairie pothole water quality, vegetation, and fauna. Directed and organized field sampling teams. Maintained clear communication between SAIC and the National Biological Service. Delineated wetlands, identified vegetation, conducted water quality and vegetation analyses, handled data management, prepared reports. Served as benefits coordinator for local SAIC staff.

Urban Conservationist

Dates

08/93 - 01/94

Employer

South St. Louis Soil and Water Conservation District

Brief Description of Position: Served as technical lead and legal expert for program to develop recommendations for controlling urban nonpoint pollution and stormwater problems. Drafted erosion and sediment control ordinances and plans for local communities. Delineated wetlands and prepared mitigation and wetland banking plans. Handled questions from the public on matters of wetland regulation and permit applications, educated adults and children concerning soil and water conservation. Trained citizen volunteers.

Senior Technical Scientist

Dates

08/92 - 08/93

Employer

Technical Resources, Inc.

Brief Description of Position: Conducted field and laboratory research program examining effects of sedimentation and farming practices on prairie pothole wetland water quality, vegetation and wildlife. Organized and led field sampling team, delineated wetlands, conducted water quality analyses, maintained clear communication between TRI, EPA, and the National Biological Service. Prepared reports, handled questions from public and other researchers concerning wetland regulation. Trained seasonal employees and citizen volunteers.

Research Scientist

Dates

08/88 - 07/92

Employer

ASCI Corporation

Brief Description of Position: Coordinated ASCI, EPA, and University of MN cooperative agreement for water quality research in urban wetlands impacted by human disturbances. Selected study sites, organized and led field sampling team, analyzed water and sediment samples, wrote reports, prepared and delivered presentations. Maintained communications between project officers, local agencies, private landowners, and developers. Handled questions from other researchers and the public concerning wetland regulations and environmental law.

Experience prior to 09/88 includes teaching assistant for undergraduate biology and botany courses; teaching assistant for graduate environmental law courses; research support staff for coding scientific literature into aquatic disturbance and AQUIRE databases; research support staff for aquatic toxicological testing.

PUBLICATIONS

Peer-Reviewed Journals

Detenbeck, N.E., C.M. Elonen, D.L. Taylor, A.M. Cotter, F.A. Puglisi, and W.D. Sanville. Effects of agricultural activities and best management practices on water quality of seasonal prairie pothole wetlands. *Wetlands Ecology and Management*. (Accepted for publication.)

Detenbeck, N.E., S.L. Batterman, V.J. Brady, J.C. Brazner, V.M. Snarski, D.L. Taylor, J.A. Thompson, and J.W. Arthur. 2000. A test of watershed classification systems for ecological risk assessment. *Environmental Toxicology and Chemistry* 19:1174-1181

Detenbeck, N.E., D.L. Taylor, A. Lima, and C. Hagley. 1996. Effects of physical and hydrologic disturbance on water quality of wetlands in the Minneapolis/St. Paul, MN metropolitan area. *Environmental Management* 40:11-40. (Paper was selected for a 1997 scientific and technological achievement award, Level II, Development of efficient monitoring strategies for wetlands based on the paper on temporal and spatial variability.)

Detenbeck, N.E., C.M. Elonen, and D.L. Taylor. 1996. Spatial and temporal variability of water quality of wetlands in the Woodworth Study Area. *Proceedings of the North Dakota Academy of Science* 50:108-109.

Taylor, D.L. and N.E. Detenbeck. 1996. Effects of water level changes on prairie pothole vegetation structure and diversity in the Woodworth Study Area, N.D. *Proceedings of the North Dakota Academy of Science* 50:110-114.

Niemi, G.J., P. DeVore, N. Detenbeck, D. Taylor, J.D. Yount., J. Pastor, and R.J. Naiman. 1990. Overview of case studies on recovery of aquatic systems from disturbance. *Environmental Management* 14:571-587.

EPA Reports

Detenbeck, N.E., C.M. Elonen, D.L. Taylor, L.E. Anderson, T. Jicha, and S. Batterman. 2001. Effects of hydrogeomorphic region, watershed storage and forest fragmentation on baseflow and snowmelt stream water quality. II. Test of a watershed classification scheme in third-order Lake Superior Basin tributaries. EPA Report.

Detenbeck, N.E., C.M. Elonen, D.L. Taylor, L.E. Anderson, T. Jicha, and S. Batterman. 2000. Effects of hydrogeomorphic region, watershed storage and forest fragmentation on baseflow and snowmelt stream water quality. I. Test of a watershed classification scheme in third-order Lake Superior Basin tributaries. EPA Report.

Detenbeck, N.E., C.M. Elonen, D.L. Taylor, L.E. Anderson, T. Jicha, and S. Batterman. 2000. Effects of hydrogeomorphic region, watershed storage and forest fragmentation on baseflow and snowmelt stream water quality. I. Test of a watershed classification scheme in second-order Lake Superior Basin tributaries. EPA Report.

Detenbeck, N.E., D.L. Taylor, and A. Lima. 1992. Assessing recovery of freshwater wetland water quality from disturbance. EPA Report.

Detenbeck, N.E., C.A. Johnston, D.L. Taylor, A. Lima, C.A. Hagley, and A. Bamford. 1991. Effects of disturbance on water-quality functions of wetlands. EPA Report.

Johnston, C.A., T. Johnson, M. Kuehl, D. Taylor, and J. Westman. 1990. Critical review of the effects of freshwater wetlands on water quality. EPA Report.

Hagley, C.A. and D.L. Taylor. 1990. An approach for evaluating numeric water quality criteria for wetland protection. EPA Deliverable 8234.

INVITED PRESENTATIONS

Trebitz, A.S., R.L. Anderson, D.L. Taylor, J.A. Morrice, and A.M. Cotter. Characteristics and variability of coastal wetland aquatic habitat attributes as a function of morphology and hydrology. To be presented at the International Association for Great Lakes Research 45th Annual Conference, Winnipeg, Manitoba, Canada, June 2-6, 2002.

Taylor, D.L., V.J. Brady, N.E. Detenbeck, and J.C. Brazner. Influence of local and landscape factors on bedload transport in low-order Lake Superior watersheds. To be presented at North American Benthological Society 50th Annual Meeting, Pittsburgh, PA, May 28-June 1, 2002.

Trebitz, A.S., D.L. Taylor, and R.L. Anderson. Hydrogeomorphic influences on macrophytes as habitat in Great Lakes coastal wetlands. Ecological Society of America Annual Meeting, Madison, WI, August 5-10, 2001.

Moffett, M.F., N.E. Detenbeck, T.M. Jicha, C.M. Elonen, L.E. Anderson, D.L. Taylor, V.M. Snarski, and T.P. Simon. Development of indicators of exposure and response to sediment and habitat alteration in Lake Michigan coastal riverine wetlands. International Association for Great Lakes Research 44th Annual Conference, Green Bay, WI, June 10-14, 2001.

Detenbeck, N.E., C.M. Elonen, L.E. Anderson, T.M. Jicha, D.L. Taylor, S.L. Batterman, and M.F. Moffett. Field tests of geographically-dependent vs. threshold-based watershed classification schemes in the Great Lakes basin. International Association for Great Lakes Research 44th Annual Conference, Green Bay, WI, June 10-14, 2001.

Detenbeck, N.E., C.M. Elonen, L.E. Anderson, T.M. Jicha, D.L. Taylor, and S.L. Batterman. Field tests of geographically-dependent vs. threshold-based watershed classification schemes in the Great Lakes basin. North American Benthological Society 49th Annual Meeting, LaCrosse, WI, June 3-8, 2001.

Brady, V.J., N.E. Detenbeck, S.L. Batterman, J.C. Brazner, V.M. Snarski, and D.L. Taylor. Detecting levels of sustainable land use within stream watersheds using the stream invertebrate community as an indicator. 3rd North American Forest Ecology Workshop, Duluth, MN, June 24-27, 2001.

Brady, V.J., N.E. Detenbeck, S.L. Batterman, J.C. Brazner, V.M. Snarski, and D.L. Taylor. Detecting stream invertebrate community alteration due to mid to low levels of watershed landscape modification. North American Benthological Society 49th Annual Meeting, LaCrosse, WI, June 3-8, 2001.

Detenbeck, N.E., J.C. Brazner, V.J. Brady, D.L. Taylor, and J.A. Thompson. The western Lake Superior comparative watershed framework: A field test of geographically-dependent vs. threshold-based geographically-independent classification schemes. Lake Superior Basin Planning Committee Meeting, MPCA Duluth Office, Duluth, MN, October 25, 2000.

Taylor, D.L., V.J. Brady, and J.C. Brazner. Stream bottom characteristics as a function of hydrogeomorphic region, mature forest cover and watershed variables. North American Benthological Society 48th Annual Meeting, Keystone, CO, May 27-June 1, 2000.

Taylor, D.L., V.J. Brady, J.C. Brazner, and N.E. Detenbeck. Stream bottom characteristics as a function of hydrogeomorphic region, forest fragmentation, and watershed variables. Midwest Fish and Wildlife Conference 61st Annual Meeting, Chicago, IL, December 5-8, 1999.

N.E. Detenbeck, J.C. Brazner, V.J. Brady, D.L. Taylor, and J.A. Thompson. The western Lake Superior comparative watershed framework: A field test of geographically-dependent vs. threshold-based geographically-independent classification schemes. Ecological Society of America Annual Meeting, Spokane, WA, August 9, 1999.

Detenbeck, N.E., C.M. Elonen, D.L. Taylor, L.E. Anderson, and F.A. Puglisi. Effects of hydrogeomorphic region, watershed storage, and forest fragmentation on watershed exports. North American Benthological Society 47th Annual Meeting, Duluth, MN, May 25-28, 1999.

Detenbeck, N.E., J.W. Arthur, S.L. Bertelsen, J.C. Brazner, V.M. Snarski, D.L. Taylor, and J.A. Thompson. Western Lake Superior comparative watershed study. SETAC Symposium: Assessing the Regional Vulnerability of Aquatic Ecosystems, Seattle, WA. August, 1998.

Taylor, D.L. and N.E. Detenbeck. Effects of water level changes and watershed tillage treatments on prairie pothole vegetation structure and diversity in the Woodworth Study Area, ND. Society of Wetland Scientists 19th Annual Meeting , Anchorage, AK, June 8-12, 1998.

Detenbeck, N.E., J.C. Brazner, S.L. Bertelsen, V.M. Snarski, D.K. Tanner, D.L. Taylor, and J.A. Thompson. Lake Superior comparative watershed study: A framework for evaluating the impacts of forest fragmentation on North and South Shore streams. Midwest Fish and Wildlife Conference, Milwaukee, WI, 1997.

Detenbeck, N.E., C.M. Elonen, and D.L. Taylor. Spatial and temporal variability of water quality of wetlands in the Woodworth Study Area. North Dakota Academy of Science, April 25-26, 1996.

Taylor, D.L. and N.E. Detenbeck. Effects of water level changes on prairie pothole vegetation structure and diversity in the Woodworth Study Area, ND. North Dakota Academy of Science, April 25-26, 1996.

Taylor, D.L., N.E. Detenbeck, and A. Lima. Recovery of wetland water quality following physical and/or hydrologic disturbance. Society of Wetland Scientists 13th Annual Meeting, New Orleans, LA, June 1-6, 1992.

Taylor, D.L., N.E. Detenbeck, and A. Lima. Impacts of disturbance regimes on wetland water quality status and function. Society of Wetland Scientists 12th Annual Meeting, Ann Arbor, MI, May 28-31, 1991.

Detenbeck, N.E., D.L. Taylor, and C. Hagley. Variability of water quality within cattail marshes: Implications for sampling strategies. Society of Wetland Scientists 12th Annual Meeting, Ann Arbor, MI, May 28-31, 1991.

Taylor, D.L. and N.E. Detenbeck. Patterns of wetland disturbance in the Minneapolis-St. Paul metropolitan area: Implications for policy makers. Society of Wetland Scientists 11th Annual Meeting, Breckenridge, CO, June 4-8, 1990.

Posters

Bertelsen, S.L., N.E. Detenbeck, J.C. Brazner, V.M. Snarski, D.L. Taylor, J.A. Thompson, and V.J. Brady. Western Lake Superior comparative watershed study: A framework for evaluating the impacts of forest fragmentation. U.S. EPA NHEERL Symposium on Research Advances in Risk Assessment Workshop, Risk Assessment Forum, RTP, NC, 1998.

Numerous informal presentations to adult, child, and adolescent groups.

OTHER

I am an active member and presently secretary for the MED Human Resources Committee. As a MED employee, I have also served on the Health and Safety and Quality Assurance Committees.

I coordinated the Outdoor/Fieldwork display/presentations at the MED Division Open Houses in 1995 and 2000.

SKILLS AND INTERESTS

Computer Skills: WordPerfect, LOTUS, Paradox, Freelance, Systat, ArcView
Environmental Education
Coordination of Volunteer and Citizens' Groups
Local History
Wetland Delineation

REFERENCES

Available on request.